

WHAT IS CLAIMED IS:

1. A door lock apparatus for a vehicle comprising:
  - an outside switch provided outside of a vehicle for detecting an opening
  - 5 operation of a door from the outside of the vehicle;
  - an actuator for releasing an engagement of a latch mechanism of the door;
  - a control means electrically connected to the outside switch for driving the
  - actuator in response to the opening operation of the door being detected by
  - the outside switch; and
  - 10 a detecting means for detecting an impact added to the vehicle, wherein
  - when the detecting means detects the impact added to the vehicle, the
  - control means disables the opening operation of the door being detected by
  - the outside switch within a first predetermined time from the detection of
  - the impact.
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2. A door lock apparatus for a vehicle according to claim 1, further
  - comprising:
  - an inside switch provided inside of the vehicle for detecting the opening
  - operation of the door from the inside of the vehicle; and
  - 20 the control means electrically connected to the inside switch for driving the
  - actuator in response to the opening operation of the door being detected by
  - the inside switch, wherein the control means disables the opening operation
  - of the door being detected only by the outside switch after the elapse of the

first predetermined time and within a second predetermined time from the detection of the impact.

3. A door lock apparatus for a vehicle according to claim 2, further comprising:

a lock/unlock switch for detecting a changing status of a lock/unlock operation of the door; and

the control means electrically connected to the lock/unlock switch for controlling a lock/unlock state of the door in response to the lock/unlock

operation of the door being detected by the lock/unlock switch, wherein the control means changes a door state into the locked state when the impact added to the vehicle is detected, and enables the change of the lock/unlock operation of the door being detected by the lock/unlock switch and the opening operation of the door being detected by the inside switch after the first predetermined time is elapsed.

4. A door lock apparatus for a vehicle according to claim 3, wherein when the detecting means detects the impact added to the vehicle, the control means changes the door state to the locked state and when the second predetermined time is elapsed after the impact is detected, the control means changes the door state to the unlocked state and at the same time enables the opening operation of the door being detected by the outside switch or the inside switch.

5. A door lock apparatus for a vehicle according to claim 1, further comprising:

a child safety lock switch for enabling or disabling the opening operation of the door being detected by the inside switch, wherein when the detecting means detects the impact added to the vehicle, the control means cancels the disabling of the opening operation of the door by the child safety door lock switch.

6. A door lock apparatus for a vehicle according to claim 5, wherein the detecting means includes a collision detection sensor for detecting the impact added to the vehicle using a G sensor.

7. A door lock apparatus for a vehicle according to claim 6, wherein the control means includes a main control portion having an operating switch determination portion, a door lock/unlock determination portion, and a collision determination portion.

8. A door lock apparatus for a vehicle according to claim 7, wherein the main control portion is electrically connected to a motor control portion connected to a motor provided at the door for driving the motor in response to a control signal from the main control portion so as to drive the actuator, and a power portion for converting a current supplied from a DC power connected to the power portion into a predetermined voltage or current.

9. A door lock apparatus for a vehicle according to claim 8, wherein the main control portion is electrically connected to the child safety lock switch, a door status switch, and a vehicle speed sensor.

5 10. A door lock apparatus for a vehicle according to claim 8, wherein the operating switch determination portion is electrically connected to the outside switch, the inside switch and a hold-open latch release inside switch.

10 11. A door lock apparatus for a vehicle according to claim 10, wherein the operating switch determination portion receives a signal from the outside switch, the inside switch, and the hold-open latch release inside switch in response to each opening operation thereof and determines whether or not a driving of the motor is required based on the received signal.

15 12. A door lock apparatus for a vehicle according to claim 11, wherein the door lock/unlock determination portion is electrically connected to the lock/unlock switch.

20 13. A door lock apparatus for a vehicle according to claim 12, wherein the door lock/unlock determination portion receives a signal from the lock/unlock switch and sends a signal to the operating switch determination portion for changing a state of the opening operation of the door into a prohibited state or a permitted state based on the received signal and a mode of the main control portion.

14. A door lock apparatus for a vehicle according to claim 7, wherein the collision determination portion is electrically connected to the collision detection sensor and an ignition switch.

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15. A door lock apparatus for a vehicle according to claim 14, wherein the collision determination portion changes a mode of the main control portion based on a received signal from the collision detection sensor and the ignition switch.

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16. A door lock apparatus for a vehicle according to claim 15, wherein the collision determination portion changes the mode of the main control portion to a first error mode when the impact added to the vehicle is detected and the ignition switch is in an ON position.

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17. A door lock apparatus for a vehicle according to claim 16, wherein the collision determination portion changes the mode of the main control portion to a second error mode when the first predetermined time is elapsed after the impact added to the vehicle is detected.

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18. A door lock apparatus for a vehicle according to claim 17, wherein the collision determination portion changes the mode of the main control portion to a third error mode when the second predetermined time is elapsed after the impact added to the vehicle is detected.

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